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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,980	11/26/2003	John L. Jordan SR.	028647-000005	9496

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EXAMINER

LAWRENCE JR, FRANK M

ART UNIT PAPER NUMBER

1724

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/723,980

Applicant(s)

JORDAN ET AL.

Examiner

Frank M. Lawrence

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The first sentence should be amended to indicate the current status of the parent application. In line 4 of claim 1, line 3 of claim 6, and line 4 of claim 13, "housing an having" should be changed to "housing having". In line 1 of claim 6, "An system" should be changed to "A system". In line 15 of claim 5, "aobut" should be changed to "about".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 13 recites the limitation "the body" in line 21. There is insufficient antecedent basis for this limitation in the claim. Claim 14 is rejected for depending from a rejected parent claim.

5. Claim 15 recites the limitation "the body" in line 16. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 15 recites the limitation "the adhesive coated surface" in line 19. There is insufficient antecedent basis for this limitation in the claim.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1, 4-6 and 9-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3, 8, 11 and 12 of U.S. Patent No. 6,692,553. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of the instant claims are fully envisioned in the recitations of the patented claims. One skilled in the art would understand that an inlet opening having a diameter could be a circular opening, especially when the claims are read in light of the specification, and that the collector would function without a protuberance or with differing parameters of inlet opening width and distance from the collecting member.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1724

10. Claims 6, 7, 9, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Baxter (5,693,895).

11. Baxter '895 teaches a system for collecting particles having a diameter of over 2 microns from a gas stream by flowing the stream through an impaction sampler comprising a housing cell (44) defining a chamber, a slit inlet (64) in an upper housing portion (58), an outlet (54) in a lower housing portion (48), a vacuum pump (40) connected to the outlet for drawing gas through the housing, a flexible tube (42) connected to the outlet, a rigid tube connected to the pump and the other end of the flexible tube (see figure 2), and a collecting member (45) having an adhesive surface (46) disposed inside the housing between the inlet and outlet for collecting particles. The upper and lower housing portions are connected by sealing tape (53) and contain recesses defined by shoulders (56) and peripheral lip (62) (see figures; col. 1, lines 12-27; col. 2, lines 35-43; col. 3, lines 23-62; col. 5, line 10 to col. 6, line 6). The recesses have a smaller width than the collecting member for engaging the member at opposite points when the housing is sealed. The lower diameter of the slit can be up to 1.1 mm (0.043") and the distance between the slit and the tacky surface of the collecting member can be 0.5-1.5 mm (0.0197"-0.059"), allowing a ratio of less than 0.5 (see col. 5, lines 51-57).

12. Claims 6, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Leith (5,304,125).

13. Leith '125 teaches a system for collecting particles having a diameters from 2-6 microns (see figure 7) from a gas stream by flowing the stream through an impaction sampler comprising a housing (10) defining a chamber (11), an inlet (12) in an upper housing portion (14), an outlet (13) in a lower housing portion (15), a vacuum source connected to the outlet for drawing gas

Art Unit: 1724

through the housing, and a collecting member (21) coated with a sticking agent disposed inside the housing between the inlet and outlet for collecting particles. The upper and lower housing portions are sealed with O-rings (16) and contain recesses defined by a steel band (44) when combined with the upper portion and an insert (40) shoulder when combined with the lower portion (see figures; col. 5, lines 6-64; col. 8, lines 18-45; col. 9, lines 48-56). The recesses have a smaller width than the collecting member for engaging the member at opposite points when the housing is sealed. The diameter of the inlet opening can be from 8-14 mm (dividing the area by pi and taking the square root) and the distance between the inlet and the tacky surface of the collecting member can be from about 2-15 mm, allowing a ratio of less than 0.5 (see col. 5, lines 15-19 and 58-64). The size distribution of particles captured by the impactor is given in figure 7 with the 50% cutoff size being 3 microns and smaller particles being captured at a lower efficiency.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1, 2, 4-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Letarte et al. (6,463,814).

16. Letarte et al. '814 disclose a bioaerosol slit impaction sampling device, comprising a housing having sealingly connected upper and lower portions (12, 14) having a planar inner surface and a recess defining an enclosed chamber, an inlet opening in the first portion connected

Art Unit: 1724

to a source of gas and particles, an outlet in the second portion connected to a vacuum source for drawing gas and particles through the housing, and a collecting member (16) in the housing between the inlet and outlet with an upper adhesive coating (20) adjacent to the inlet opening, wherein the longest dimension of the recess is less than the length of the collecting member so that the portions engage the collecting member at two spaced points (see figures; col. 3, line 3 to col. 4, line 5; col. 4, lines 48-53). The inner surface of the second portion defines opposed slots extending from the recess for receiving the collecting member and have a depth less than the thickness of the member so that the first portion engages it. The first portion may be threaded or attached with an O-ring to the second portion.

17. The instant claims differ from the disclosure of Letarte et al. '814 in that the distance between the inlet opening and the collecting member surface is less than about 0.02", that the diameter of the inlet opening is less than about 0.2", and that the ratio of the distance to the diameter is less than about 0.1. Although the patent does not disclose these dimensions, it discloses the relative size of the collecting member as 25 x 75mm. One having ordinary skill in the art would understand that figures 1-3 (and not 4) represent approximate relative dimensions because of the accurate depiction of the collecting member and apparent real-life appearance of the device, and would be motivated to use the depicted inlet opening width (less than 0.2"), distance between the opening and member (less than 0.02") and relative ratio of less than 0.1 from a study of the drawings.

18. Claims 1-5, 8, 10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baxter '895 in view of Marpel (4,796,475).

Art Unit: 1724

19. Baxter '895 discloses all of the limitations of the claims except that the ratio of the distance between the inlet opening and the surface of the collecting member to the diameter of the inlet opening is less than about 0.1 and that the collection system further comprises a cap member having a pass through opening and sealingly connected to the first portion of the housing in fluid communication.

20. Marpel ('475) teaches an air sampling impactor comprising a housing formed by upper and lower covers (13, 14), a collection plate (27) disposed under an inlet opening (20) in the upper cover, and a cap member (61) sealed over the upper cover and having an opening (63) in fluid communication with the housing. The upper cover forms an integral protuberance of the housing with an inlet passage tapering inwardly to the inlet, and the cap member includes an outer rim for receiving the protuberance. In the embodiment of figure 3, O-rings are used to seal the cap member to the body. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the impactor of Baxter '895 by including a cap member as disclosed by Marpel '475 in order to provide additional particle removal using a two stage impactor in a very compact unit.

21. Baxter '895 also discloses a ratio of less than 0.5 for capturing particles down to greater than 2.0 microns in size and further teaches that the slit size, geometry, and distance of the collection media from the slit exit are important in capturing particles of a preferred size (see col. 3, lines 39-51). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the inlet and collection media arrangement of the Baxter device in order to provide optimum conditions for capturing a preferred particle size using the above teachings.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose particle collectors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank M. Lawrence
Primary Examiner
Art Unit 1724

Frank Lawrence
3-10-05

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